CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

MEMORANDUM

TO: **John Robertus**

FROM: **Hashim Navrozali, WRCE**
SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

DATE: **April 28, 2005**

SUBJECT: **SOUTHERN CALIFORNIA EDISON, SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3**
RESPONSE TO COMMENTS REGARDING TENTATIVE ORDER NOS. R9-2005-0005 AND R9-2005-0006

Tentative Order Nos. R9-2005-0005 and R9-2005-0006 (NPDES Permit Nos. CA0108073 and CA0108181) were made available for public review and comment on January 28, 2005. During its regularly scheduled meeting on March 9, 2005, the Regional Board heard oral public testimony regarding the tentative Orders but decided to extend the written comments period on the tentative Orders through March 23, 2005 (i.e. an additional two weeks from the date of the March 9, 2005 hearing). The Regional Board directed staff to prepare responses to written comments and bring the tentative Orders back for the Regional Board's consideration at one of its subsequent hearings.

All written comments received from the public, up to March 23, 2005, are addressed under this *Response to Comments* document.

1. The following comment letters and emails from interested parties were received regarding tentative Order Nos. R9-2005-0005 and R9-2005-0006 (the waste discharge requirements and monitoring requirements contained in both tentative Orders are virtually identical, therefore the comments received are assumed to be equally applicable to both Orders):

   A. Southern California Edison, letter dated February 24, 2005.

   B. San Diego Bay Council (Bay Council), 1st letter, dated March 8, 2005. The Bay Council is a coalition of the following environmental organizations: Environmental Health Coalition (EHC); San Diego BayKeeper, Surfrider Foundation, San Diego Chapter; Sierra Club, San Diego Chapter; San Diego Audubon Society, and Alliance for Nuclear Responsibility.

   C. Industrial Environment Association, letter dated March 8, 2005.

   D. Deputy Mayor Michael Zucchet, City of San Diego, letter dated March 15, 2005.

E. San Diego Bay Council, 2nd letter, dated March 21, 2005.

F. United States Fish and Wildlife Service, letter dated March 22, 2005.

G. Environmental Health Coalition (EHC) and Nuclear Information and Resource Service (NIRS), letter dated March 23, 2005.

H. Department of Fish and Game, letter dated March 23, 2005.

I. Mr. Sheldon Plotkin, Plotkin and Associates, letter dated February 1, 2005.

J. Mr. Jack Eidt, Wild Heritage Planners, email dated March 15, 2005.

2. Following are the Regional Board's *Responses to Comments* for letters received regarding tentative Order Nos. R9-2005-0005 and R9-2005-0006. The identification of the comments in this document attempted to follow the format in the comment letters. In this document the comments received are paraphrased. Copies or paraphrases of the concerns listed in each of the letters and staff's responses are provided below. The original letters should be reviewed to ensure that the reader understands the comments and to ensure that the copied or summarized comments are accurate:

A. Southern California Edison, letter dated February 24, 2005

Southern California Edison, letter dated February 24, 2005 **Comments Regarding *Tentative Orders***				
Comment #	**Page Number of Tentative Orders**	**Section of Tentative Orders**	**Comment**	**Response to Comments**
A.1	7	Section III.B.1.b *(Effluent Limitations – Total Residual Chlorine)*	The instantaneous maximum total chlorine residual effluent limitation of 176 ug/l is based on a maximum chlorination cycle time of 25 minutes. This unnecessarily restricts the plant and removes flexibility to change chlorination cycle times.	Based on SCE's request, Regional Board staff deemed it appropriate to remove the 176 ug/l maximum total residual chlorine limitation (based on a fixed 25 minute maximum chlorination cycle time). The tentative Orders will be modified to allow SCE to use variable cycle times (that could exceed 25 minutes). The effluent limitation will now be a variable value based on the chlorination cycle time. This is consistent with the equation in *note c.* of Table B of the 2001 Ocean Plan for intermittent chlorine discharges. Based on this equation, a longer chlorination cycle time would render a lower (i.e. more stringent) effluent limitation for total residual chlorine. Conversely, a shorter chlorination cycle time would render a higher (i.e. less stringent) effluent limitations for total residual chlorine. The equation provides adequate protection of aquatic species from total residual chlorine impacts. The revised effluent limitation is also consistent with that used in Order Nos. 99-47 and 99-48.

Southern California Edison, letter dated February 24, 2005 **Comments Regarding *Tentative Orders***				
Comment #	**Page Number of Tentative Orders**	**Section of Tentative Orders**	**Comment**	**Response to Comments**
A.2	N/A	N/A	The waste discharge requirements in the tentative Orders for Units 2 and 3 should be consolidated under one NPDES permit in order to avoid excessive fees. This is consistent with various coastal power plants in California that operate multiple generating units.	Units 2 and 3 are independent generating Units with separate intake structures and discharge outfalls. The cooling water and low-volume wastes generated from each Unit do not commingle and have to be regulated and monitored separately. It is therefore appropriate for Units 2 and 3 to be regulated under separate waste discharge requirements and NPDES permits. Furthermore, the total NPDES fees charged to SCE is consistent with and reflective of the amount of Regional Board staff time and resources used in regulating SONGS Units 2 and 3 (i.e. permitting, discharge monitoring review, facility inspections, and enforcement activities etc.). The fees resulting from consolidating the NPDES permits for Units 2 and 3 into one NPDES permit would not cover Regional Board staff costs.

Southern California Edison, letter dated February 24, 2005 **Comments Regarding *Tentative Orders***				
Comment #	**Page Number of Tentative Orders**	**Section of Tentative Orders**	**Comment**	**Response to Comments**
A.3	14	Section III.F (*Effluent Limitations – Individual Low-Volume Wastewaters*)	The plant drain low-volume waste stream has been permanently removed from service at Unit 1. SCE requests that all references and limitations regarding this waste stream be removed from the tentative Orders.	The tentative Orders will be modified to reflect the removal of all references to the plant drain low-volume waste stream from Unit 1
A.4	19	Section IV.B.5 (*Water Quality Objectives – Radioactivity*)	The tentative Orders contain a receiving water limitation that states that *Discharge of radioactive waste, which meets the definition of "pollutant" at 40 CFR 122.2, shall not degrade marine life*. Since radioactive effluents are under the sole jurisdiction of the Nuclear Regulatory Commission (NRC), this statement should be removed, or as a minimum should be modified to reflect that the wastes from the SONGS facility are treated to levels that meet the radiological emission limitations of the NRC.	No change to the tentative Orders is necessary. The receiving water limitation for radioactivity in the tentative Order is based on the 2001 Ocean Plan water quality objectives for radioactivity. As stated in the tentative Orders this limitation is attributable jointly to SONGS and other dischargers to the ocean. Further, pursuant to the definition of "pollutant" in 40 CFR 122.2, the receiving water limitation in the tentative Order for radioactivity is confined to the radioactive materials from SONGS that are not regulated by the NRC or under the Atomic Energy Act.

Southern California Edison, letter dated February 24, 2005 **Comments Regarding *Tentative Orders***				
Comment #	**Page Number of Tentative Orders**	**Section of Tentative Orders**	**Comment**	**Response to Comments**
A.5	17	Section IV.B.1 (*Water Quality Objectives – Bacterial Characteristics*)	The tentative Orders include receiving water limitations and sampling for bacterial indicators such as coliform that are derived from the Ocean Plan. However, the Monitoring and Reporting Program (MRP) does not require SCE to conduct offshore or surf zone coliform monitoring. SCE requests that this conflict be clarified.	The receiving water limitation for bacterial indicators in the tentative Orders is based on the 2001 Ocean Plan water quality objectives for bacterial characteristics. As stated in the tentative Orders this limitation is attributable jointly to SONGS and other dischargers to the ocean. The Regional Board usually includes receiving water monitoring requirements for coliform in the permits of dischargers such as POTWs that have shown a potential to release bacteria and other biological contaminants. In the case of SONGS, the Regional Board only included a receiving water limitation in the Orders but decided not to include receiving water monitoring for coliform since the contribution of bacteria to the ocean water from the plant is insignificant.

Southern California Edison, letter dated February 24, 2005 **Comments Regarding *Tentative Monitoring and Reporting Program (MRP)***				
Comment #	**Page Number of Tentative MRP**	**Section of Tentative MRP**	**Comment**	**Response to Comments**
A.6	D-6	Section IV (*Combined Discharge Monitoring*)	The monitoring frequency of total chlorine residual in the effluent has been increased from a monthly to weekly basis. SCE believes that the current monthly sampling frequency is reasonable and should be retained.	No change to the tentative Orders is necessary. Even though SCE has an electronic monitoring system in place that regulates the injection of total residual chlorine and discontinues the discharge of total residual chlorine with it approaches the designated permit limitations, actual wet sampling (in conformance with approved 40 CFR 136 EPA test methods) of total residual chlorine is necessary. Based on the over 1.2 billion gallons per day of cooling water discharge from each Unit, a weekly sampling of effluent for total residual chlorine is appropriate and is consistent with the monitoring regimen for total residual chlorine employed in other recently issued renewal permits for power plants in the San Diego region, such as the South Bay Power Plant.

Southern California Edison, letter dated February 24, 2005 **Comments Regarding *Tentative Monitoring and Reporting Program (MRP)***				
Comment #	**Page Number of Tentative MRP**	**Section of Tentative MRP**	**Comment**	**Response to Comments**
A.7	D-14	Section XII.a (*Regional Watershed/Ocean Monitoring*)	The MRP requires SCE to participate in the implementation of regional watershed/ocean monitoring program. SCE requests that once the regional monitoring commences, receiving water monitoring specified in the SONGS MRP be reduced by an equivalent amount. Furthermore, the total cost of receiving water monitoring should not increase as result of SCE's participation in the regional monitoring.	The implementation plans for a regional watershed/ocean monitoring program have yet to be developed. Once these plans have been developed SCE and other dischargers in the San Diego region will be notified. Guidance on costs, responsibilities, and extent of participation of dischargers in the regional watershed monitoring program will be provided by the Regional Board at a future date.
A.8	Attachment 3 to MRP	Attachment 3 to MRP (*Monitoring of Chronic Toxicity*)	The MRP requires SCE to conduct a screening study for chronic toxicity immediately upon adoption of the new Orders. Since SCE just recently completed a chronic toxicity screening study on Units 2 and 3 effluents during the fourth quarter of 2004, SCE requests that the initial chronic toxicity screening for the renewed permits be deferred until the fourth quarter of 2006.	The request for SCE to defer the next chronic toxicity screening study for Units 2 and 3 until the fourth quarter of 2006 is reasonable since a screening study was already conducted in 2004. The tentative Orders will be modified to reflect this change.

Southern California Edison, letter dated February 24, 2005 **Comments Regarding *Tentative Monitoring and Reporting Program (MRP)***				
Comment #	**Page Number of Tentative MRP**	**Section of Tentative MRP**	**Comment**	**Response to Comments**
A.9	D-6	Section IV (*Combined Discharge Monitoring*)	The MRP requires SCE to analyze the effluent from Units 2 and 3 for metals and priority pollutants on a semiannual basis. Since there have been no violations of metals or priority pollutants during the last five years, SCE requests that the monitoring frequency for these constituents be reduced to an annual basis.	No change to the tentative Orders is necessary. Based on the high volume of discharge, a semiannual monitoring program for metals and priority pollutants in the effluent is appropriate and consistent with the existing Orders (Nos. 99-47 and 99-48) for Units 2 and 3.
A.10	D-17	Section XIV.10 (*Endnote 10*)	Endnote 10 of the MRP provides an example on how to calculate and obtain an annual in-plant waste composite sample for Units 2 and 3 (the example is also presented on page E-45 of the Fact Sheet). For clarification, SCE requests that the following sentence be incorporated into Endnote 10: "Individual low-volume wastewaters that account for no flow on the day of sample collection would not be included in a composite sample."	The Regional Board concurs with SCE on this issue. The tentative Orders will be modified to add the requested sentence regarding low-volume wastewaters.

Southern California Edison, letter dated February 24, 2005 **Comments Regarding *Fact Sheet***				
Comment #	**Page Number of Fact Sheet**	**Section of Fact Sheet**	**Comment**	**Response to Comments**
A.11	E-5	Section I.B (*Discharge Points and Receiving Waters*)	The Fact Sheet indicates that the flow from the saltwater cooling system is 27 MGD from Units 2 and 3 each. This should be corrected to 49 MGD (as indicated in SCE's NPDES renewal applications dated February 10, 2004)	It is the Regional Board's understanding that the 27 mgd of the salt-water cooling system is routed to the component cooling water system and 22 mgd is routed to the turbine plant cooling water system, for a total discharge of 49 mgd. Page E-5 of the Fact Sheet reflects this breakdown. However, based on SCE's request it is appropriate to list the aggregated discharge for the salt water cooling system as 49 mgd. The Fact Sheet will be modified to reflect this change.
A.12	E-8	Section I.B (*Discharge Points and Receiving Waters*)	The Fact Sheet identifies various chemicals that are added to the steam generators for Units 2 and 3 to maintain proper water chemistry. One of the chemicals listed in the Fact Sheet is "dimythalamine". This is incorrect and should be replaced with the chemical "diethanolamine".	The tentative Orders will be modified to reflect the correct chemical name.
A.13	E-25	Section II.B (Other *Applicable Plans, Policies, and Regulations – Thermal Plan*)	The tentative Orders do not incorporate SCE's request to substitute the current Delta T instantaneous limitation of 25 degrees F with an average daily Delta T of 25 degrees F. The tentative Orders also do not incorporate SCE's request to modify heat treatment schedules. The	The Thermal Plan exception granted to SCE by the State Board in 1999 (Resolution No. 99-028) increased the instantaneous maximum delta T limitation at SONGS Units 2 and 3 from 20 degrees F to 25 degrees F. The new limitation was incorporated into the Orders for Units 2 and 3 that were

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			Regional Board has stated that SCE would have to apply for a thermal plan exception in order for these changes to be considered. SCE feels that a thermal plan exception is not needed for the requested changes and requests a legal opinion from the Regional Board counsel.	in effect in 1999 (i.e. Order Nos. 94-49 and 94-50). The 25 degrees F limitation was retained in the subsequent Orders for Units 2 and 3 (i.e. Order Nos. 99-48 and 99-49). The request of SCE to replace the instantaneous delta T limitation of 25 degrees F with an average delta T limitation of 25 degrees F is essentially a relaxation of the existing thermal limitation and does not conform with the previously granted Thermal Plan exception pursuant to State Board Resolution No. 99-028. SCE will have to apply for a new Thermal Plan exception to be eligible of the more relaxed thermal limitation. The existing heat treatment specifications and operating conditions (based on the mussel mortality curve) were proposed by SCE in 1979. The State Board subsequently approved the proposed conditions and adopted Resolution No. 80-95. The Resolution granted SCE an exception from complying with the Thermal Plan limitations during heat treatment of its Units. The Resolution also incorporated specific heat treatment requirements (based on the mussel

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				mortality curve) into the Orders for Units 2 and 3. Any variation in the heat treatment schedules approved under Resolution No. 80-95 would necessitate a request for a new Thermal Plan exception.
A.14	E-32	Section III.A.2 (*Technology-Based Effluent Limitations*)	The Fact Sheet erroneously states that the technological-based standard for oil and grease (30-day average) from metal cleaning wastes is 25 mg/l. The actual standard (based on 40 CFR 423.12(b)) is 15 mg/l.	The tentative Orders will be modified to reflect the correct technological-based standard for oil and grease (30-day average) of 15 mg/l.

B. San Diego Bay Council, 1st letter, dated March 8, 2005

San Diego Bay Council, 1st letter, dated March 8, 2005 Comments Regarding *Tentative Orders*				
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B.1	21	Section V.C.1.a (*Special Provisions – CWA 316(b) Comprehensive Demonstration Study*)	The tentative Orders fail to demonstrate compliance with the CWA Section 316(b) Phase II rule. The tentative Orders do not make any findings showing that the discharger has met any of the five compliance alternatives listed in the Phase II rule. Furthermore, the tentative Orders do not require monitoring of benthic infaunal and macrofaunal to determine if the discharge from Units 2 and 3 will assure protection of a balanced indigenous benthic community. An EPA review of the SONGS 316(b) demonstration concluded that although the plant has incorporated technologies for minimizing adverse environmental impacts, the cooling water system at SONGS cause mortality of fish, especially losses of millions of eggs and larvae. These results are significant and need to be seriously addressed when determining the renewal permit to mitigate any possible impacts.	Pursuant to the CWA Section 316(b) Phase II rule, the discharger does not have to demonstrate immediate compliance with the rule. Instead, the discharger is provided up to three and a half years to demonstrate compliance with the rule from the date of its promulgation (i.e. September 7, 2004). CWA Section 316(b) requires that the location, design, construction, and capacity of cooling water intake structures reflect the Best Technology Available (BTA) for minimizing adverse environmental impact. The U.S. EPA published a final Phase II rule [Section 125.94(a)] to implement Section 316(b) in February 2004. The final rule became effective September 7, 2004 and specifies the location, design, construction, and capacity standards for cooling water intake structures. The provisions, compliance requirements, and compliance schedules to demonstrate compliance with the Phase II rule have been incorporated into the tentative

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				Orders. SCE is required to perform and implement a *Comprehensive Demonstration Study* (Study) to characterize impingement mortality and entrainment, to describe the operation of the cooling water intake structures at SONGS Units 2 and 3, and to confirm that the technologies, operational measures, and/or restoration measures it has selected or installed, or will install, to meet one of the five compliance alternatives listed in Section 125.94(a) of the new rule. The final Study report will be due no later than January 9, 2008. The Study will also include implementation schedules for technological upgrades and/or restoration measures that would enable the facility to come into compliance with the rule. SCE has already implemented or is in the process of implementing various structural (intake velocity caps, fish return system etc.) and mitigation measures (kelp reef construction, wetland habitat enhancement at San Dieguito Lagoon etc.) at SONGS. These measures were required as part of a

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				permit (No. 6-81-330-A) issued to SONGS by the California Coastal Commission (CCC). The CCC required SONGS to implement these measures based on recommendations by the Marine Review Committee (MRC) based on its studies conducted over a period of 15 years (1974 – 1989). In its 1994 report on compliance of SONGS with Section 316(b) requirements, the U.S. EPA indicated that the although the MRC studies indicated adverse impacts to larval fish due to entrainment in the SONGS intake structures, the mitigation requirements recommended by the MRC (and incorporated into CCC's permit) in conjunction with the existing velocity caps and fish return system would be adequate in meeting Section 316(b) compliance requirements. The Fact Sheet will be modified to include a more detailed discussion of MRC's findings and recommendations and the measures SONGS has implemented to mitigate adverse impacts from its intake

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				structures. It would not be feasible to require the power plant to make additional significant upgrades prior to the submittal of the Study. Therefore in the interim, it is appropriate for SONGS to continue operating in its current configuration. The MRC studied the impacts of the SONGS discharge on benthic communities from 1974 to 1989. The MRC studies indicated that the SONGS discharge is not having an adverse impact on the populations of benthos. The Regional Board discontinued benthic sediment monitoring at SONGS in 1994 after monitoring continued to show no measurable effects from SONGS operation on sediment dwelling communities. As SONGS operations have not changed, there would be no justification for reinstituting benthic sediment monitoring.
B.2	N/A	N/A	A prohibition needs to be added in the tentative Orders that prohibits simultaneous chlorination of Units 2 and 3. Sufficient lapse of time between the chlorination discharges from the	No change to the tentative Orders is necessary. The cooling water discharges from Units 2

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			two Units should also be required to allow dissipation of the residual chlorine.	and 3 are regulated separately. The effluent from each Unit must meet specified total residual chlorine concentrations that are derived from the 2001 Ocean Plan water quality objectives and equation (note c, Table B of Ocean Plan) for intermittent total chlorine dischargers such as SONGS. The intermittent chlorine injection schedule at each Unit (normally 25 minutes per cycle) allows the chlorine to dissipate rapidly in the ocean waters minimizing impact to the marine communities. The limitations derived from the Ocean Plan are designed to protect the most sensitive aquatic species with large margins of safety. This protection is verified through quarterly whole effluent chronic toxicity testing of the most sensitive approved test species. In the last five years no violations of the total residual chlorine or chronic toxicity limitations have been noted from the Units 2 or 3 discharges. It should also be noted that the design and offset location of the SONGS discharge conduit diffusers associated with Units 2 and 3 ensure that the Zones of Initial Dilution (ZIDs) of Outfalls 002 and 003

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				do not overlap or impinge upon one another; Additive effects of the discharges from Units 2 and 3 do not occur. This fact has been verified by comprehensive hydraulic modeling of the discharge plumes by the MRC. The Fact Sheet will be modified to include a more detailed discussion of the diffusers and initial dilution factor.
B.3	7	Section III.A.10 (*Effluent Limitations*)	The tentative Orders indicate that the discharge temperature shall not exceed the natural temperature of the receiving water by 25 degrees F. The Delta T temperature measurement required by the Orders, is however, based on the difference between the effluent from the condenser and the intake to the condenser. The tentative Orders should address if the intake water temperature is higher than the natural temperature of the ocean water. The intake temperature should not be used in defining the Delta T temperature (since there is a short distance between the intake and diffuser associated with the discharge and the intake temperature may be influenced by the discharge). Instead the Delta T should be based on the natural temperature of the ocean water. Presumably, the temperatures of the Control Stations C22S, F22S, H22S, J22S, and M22S	The water temperature of the intake is reflective of the natural temperature of ocean waters and it is appropriate to use intake water temperature to determine Delta T. This is consistent with how Delta T is determined in the various other coastal power plants in California including those in the San Diego region. The temperature measurements taken at receiving water stations C22S, F22S, H22S, J22S, and M22S are a part of the receiving water monitoring program at SONGS and are not intended to be used for determining compliance of the Delta T limitation. The SONGS offshore conduits were specifically designed by the California Institute of Technology (Caltech) to

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			listed on page D-13 of the MRP are to be used to determine the natural temperature. The tentative Orders, however, fail to define how the natural temperature is to be determined based on these Control Stations (i.e. highest, lowest, or average of the five measurements).	prevent warmer effluent from being recirculated into the SONGS intakes in order to maximize the efficiency of the steam condensers. The design also ensures compliance with Thermal Plan receiving water limits. Integral to this design are the 2500 foot-long effluent discharge diffusers (associated with Units 2 and 3), each incorporating 63 separate discharge ports angled upward and offshore to increase effluent discharge velocity and induce a current in the offshore direction. This ensures that heated effluent actively travels away from the intakes and shoreline in a longitudinal direction. The design of the diffusers ensures that the discharge from the diffusers does not move in the lateral direction. This significantly reduces the likelihood that warm water from the diffusers would be routed back to the intake conduits. (Also see *Response to Comment* B.15). The Fact Sheet will be modified to include a discussion on the design of the diffusers and a graphic representation of their effectiveness at a Delta T of 25 degrees F.

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				Intakes for both Units 2 and 3 are located 3,183 feet offshore, while the nearest discharge port of the 2,500 foot-long Unit 3 diffuser is located 3,388 feet offshore (205 feet shoreward of the Unit 2 or 3 intakes). This distance information is clearly provided on Page E-4 of the tentative Orders.
B.4	14	Section III.F (*Effluent Limitations – Individual Low-Volume Wastewaters*)	The concrete cutting water effluent should include limitations for settleable solids, trace metals, organic chemicals, and iron.	No change to the tentative Orders is necessary. Concrete cutting water is already regulated under Section C (*Final Effluent Limitations – Combined Low Volume, In-Plant Wastewaters*) of the tentative Orders. According to Section C, the low-volume wastewaters generated at each Unit (including concrete cutting water effluent, steam generator blowdowns, demineralizers etc.) shall be composited on a flow-weighted basis and the composite sample would have to comply with limitations for all toxics (metals and organic chemicals) listed in Table B of the 2001 Ocean Plan and for total suspended solids and oil and grease. Since the concrete cutting water is a

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				component of the composite sample, it is not necessary to require separate limitations for metals and toxics for the individual concrete cutting water wastestream. Furthermore, this approach is consistent with the requirements of the Ocean Plan (Section III.C.7.d) for toxics in low-volume wastewaters (for dischargers which use a large volume of ocean water for once-through cooling). In its letter dated March 22, 2005, SCE has indicated that concrete cutting includes domestic water used for cooling water for concrete cutting saws that will be used primarily during the steam generator replacement project in 2009 and 2010 at SONGS. This discharge will likely not occur before the year 2009. During the steam generator replacement project, this wastewater will be released during each year for approximately three months duration.
B.5	15	Section I (*Heat Treatment Discharge Specs.*)	The tentative Orders should explicitly prohibit simultaneous heat treatment of Units 2 and 3. The Orders should also specify the conditions (such as time and water temperature in the vicinity of the discharge) that must be met before the heat treatment of one of the Units	No change to the tentative Orders is necessary. In December 1980 the State Board adopted Resolution No. 80-95 that approved heat treatment procedure criteria

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			can proceed after the heat treatment of the other Unit has been completed.	for Units 2 and 3 following extensive studies by SCE to minimize heat treatment frequency and validate that the procedure did not adversely impact the receiving waters. These criteria, however, do not prohibit simultaneous heat treatment of both Units 2 and 3. The criteria were incorporated into all NPDES renewal permits for Units 2 and 3 since 1980. The State Board found that the heat treatment operating conditions proposed by SCE would assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife with the framework of CWA Section 316(a).
B.6	18	Section IV.B.2 (*Water Quality Objectives – Physical Characteristics*)	The tentative Orders include water quality objectives for sediments; however, the Orders fail to require compliance with these objectives by requiring sediment monitoring. Nutrient materials should be monitored (i.e. total nitrogen, biochemical oxygen demand) to verify that they do not cause objectionable aquatic growth or degrade indigenous biota.	No change to the tentative Orders is necessary. The receiving water limitation for sediments in the tentative Orders is based on the 2001 Ocean Plan water quality objectives for physical characteristics (including sediments). As stated in the tentative Orders this limitation is attributable jointly to SONGS and other dischargers to the ocean. The Regional Board usually includes receiving water

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				monitoring requirements for sediments and benthic monitoring in the permits of dischargers such as POTWs that have shown a potential to degrade benthic communities. In the case of SONGS, the Regional Board only included a receiving water limitation in the Orders but decided not to include receiving water monitoring for sediments, nutrients, and benthic communities since previous studies have confirmed that the plant does not cause degradation of benthic communities (see *Response to Comment* B.1).
B.7	19	Section IV.B.4 (*Water Quality Objectives – Biological Characteristics*)	The tentative Orders should but fail to require marine community monitoring to verify that Units 2 and 3 do not degrade the community.	No change to the tentative Orders is necessary. Marine community monitoring is already included as part of the Monitoring and Reporting Program requirements. The tentative Orders require quarterly fish population trawls, kelp density monitoring in the San Onofre Kelp (SOK) Bed, aerial photographic surveys of the SOK and other kelp beds in the region, and periodic in-plant fish impingement monitoring. The marine monitoring required in the tentative Orders is consistent with the requirements of existing Order Nos. 99-47 and 99-48. A review of the last five years

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				marine monitoring data indicate no adverse impacts on beneficial uses or water quality objectives from the SONGS discharge. As such, no additional marine community monitoring is warranted.
B.8	N/A	N/A	The Bay Council strongly opposes the separate tentative Orders issued for Units 2 and 3. By separating the Orders, it is difficult to evaluate the cumulative impact of both Units on water quality. In addition, it fails to recognize that the Units are both part of one power plant and that both Units discharge a combined flow of up to 2.4 billion gallons per day of seawater.	It is appropriate for Units 2 and 3 to be regulated under separate waste discharge requirements and NPDES permits (see *Response to Comment* A.2). The intent of the receiving water monitoring program in the tentative Orders is to monitor the combined effects of the discharges from Units 2 and 3 on the ocean waters. The receiving water monitoring program looks at the overall impacts of the discharges from both Units. The offshore effects of the station have always been evaluated as if from a single source. As such the discharger is required to submit an annual receiving water monitoring report that characterizes the total impact from the entire SONGS facility on the marine environments (including kelp density surveys, fish trawl surveys, physical/chemical parameters etc.) at monitoring stations dispersed in the vicinity of the SONG facility.

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				Inspection of any one of the twenty annual receiving water monitoring reports produced since 1984 would show that all receiving water monitoring, data analyses and evaluation for Units 2 and 3 are combined.
B.9	N/A	N/A	Bay Council requests the Regional Board to defer any immediate action in the adoption of the Orders until significant gaps in key information regarding environmental impacts and included to justify their adoption and the public has had a chance to review that information and provide their input. The Bay Council request that the tentative Order be brought back to the Regional Board after two months after all data gaps have been filled and an additional 30-day public comment period be provided.	Pursuant to the Regional Board's directive, staff has responded to oral and written testimony received and compiled a *Response to Comments* document. Based on the comments received, staff will be adding more details to the Fact Sheet and making minor modifications to the tentative Orders. The tentative Orders will be presented to the Regional Board for its consideration at its May 11, 2005 hearing. A further delay in the adoption of the tentative Orders is not warranted since adequate time was already provided to the public to review the tentative Orders and submit comments. The tentative Orders were made available for public review and comment on January 28, 2005. During its regularly scheduled

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				meeting on March 9, 2005, the Regional Board heard oral public testimony regarding the tentative Orders but decided to extend the written comments period on the tentative Orders through March 23, 2005. The total time allowed for public review and comment has been 54 days. This is three weeks more than the statutory public review comment period of 30 day. The Regional Board directed staff to respond to all written comments received and bring the tentative Orders back for the Regional Board's consideration at a future hearing.

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B.10	D-4	Attachment 1 to MRP (*SONGS Receiving Water Stations*)	Attachment 1 (Figures 1, 2, and 4) to the MRP are not adequate. Clear and expanded scaled drawings of these figures need to be provided. In particular, Figure 1 is not very legible and the reader cannot obtain the exact locations of the continuous temperature monitoring locations relative to the discharge locations. An expanded scale map showing the exact locations of Stations C2S, C22S, and F2S and diffusers of each Unit should be provided. Figure 4 is not acceptable because the size and scale does not allow the reader to determine the distances of the temperature profile stations and water quality monitoring stations relative to the diffuser locations of Units 2 and 3. Furthermore, the figure does not show the locations of the intakes of Units 2 and 3 and Outfalls 004 and 005. Knowledge of the precise locations of the temperature stations is critical to determine compliance with the Thermal Plan natural water temperature objectives at various locations (i.e. shoreline, surface, 1,000 ft from discharge etc.). It does not appear that there are sufficient numbers of temperature stations located beyond 1,000 ft from the discharge to the east and west of the diffusers.	The coordinates (LAT/LONG) of the receiving water monitoring stations will be added to Attachment 1 (Figures 1 and 4) of the MRP in order to better identify their locations relative to each other. Also a better schematic showing the relative locations of the discharge outfalls for Units 2 and 3 (Outfalls 002 and 003), across-the-beach discharge (Outfall 004), fish return system outfall (005) and intake structures will be added to Attachment A (SONGS Locations Map and Facility Diagram) of the tentative Orders. Most of the receiving monitoring stations identified in the MRP were established in 1984 have been included in all NPDES permits since that time. SONGS compliance with the Thermal Plan's natural water temperature objectives at various locations (i.e. shoreline, surface, 1,000 ft from discharge etc.) has been extensively studied over the last 20 years. The MRC studies did not find any detrimental impacts from the thermal component of the SONGS discharge on the marine communities residing at the shoreline or close to the discharge points. Furthermore, the Thermal Plan exception granted by the State Board to SCE in 1999 (Resolution No. 99-028) to increase its Delta T limitation from 20 degrees F to 25 degrees F was based on extensive studies that showed that the 25 degrees F Delta T limitation in conjunction with the diffuser systems would enable SONGS to continue to comply with all provisions of the Thermal Plan

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				including compliance with thermal objectives at the shoreline, surface, 1,000 ft from discharge (and beyond) even under worst-case scenario conditions (effluent delta-T at the 25^{o}F exception limit and no current in the receiving waters). The existing number of monitoring stations at the shoreline and at and beyond 1,000 feet from discharge are adequate and do not need to increased.

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B.11	E-4	Section I (*Facility Description*)	A full description of the locations, depth, structural details of all the Outfalls (001, 002, 003, 004, and 005) and all intakes needs to be provided. Scaled drawings should be included. Attachment A (SONGS locations map and facility diagram) does not accurately show the locations of the Outfalls. Also, the locations of the intake structures are not shown.	See *Response to Comment* B.10.

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B.12	E-8	Section I.B (*Discharge Points*)	The Fact Sheet refers to plant drain flows from Units 2 and 3 as "non-radioactive". The Fact Sheet needs to clarify whether or not there is a possibility of radioactive plant drain discharges. Furthermore, the Regional Board's authority regarding regulating radioactive wastes also needs to be clarified in this section.	SCE has indicated that "Non-radioactive" plant drains refer to drains from systems that do not normally contain radioactivity, but on occasion may contain trace amounts. Non-radioactive plant drains are routed through a radiation monitor. Radioactive plant drains are routed to the radwaste processing system where the water is purified and radioactivity removed through filters and ion exchangers. The purified water is sampled and analyzed for radioactivity prior to release through an additional radiation monitor. All radioactivity sampling, reporting, and regulatory oversight fall under the jurisdiction of the Nuclear Regulatory Commission in accordance with the federal Atomic Energy Act. The Fact Sheet will be modified to clarify the definition of "non-radioactive" plant drains.
B.13	E-8	Section I.B (*Discharge Points and Receiving Waters*)	The Fact Sheet indicates that a thermophilic digester has been proposed by SCE with a discharge of 0.01 MGD. The Fact Sheet, however, fails to provide sufficient details of the proposed digester including types of matter being processed and the maximum daily mass that can be digested. The Fact Sheet should also address any potential production of methane and its disposal and possible air quality impacts from its burning.	In its letter dated March 22, 2005, SCE has indicated that it is no longer contemplating construction of a thermophilic digester which was originally proposed during the 1990s. SCE has requested that all references regarding thermophilic digester should be deleted from the tentative Orders. Based on SCE's request, the tentative Orders will be modified to remove all references regarding a thermophilic digester (including effluent limitations and monitoring requirements).

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			Subsequent sections of the Fact Sheet indicate that there was no flow from the thermophilic digester in the past three years. This implies that the thermophilic digester has already been constructed and is operational. The Fact Sheet needs to more clearly explain the status of the digester.	
B.14	E-8	Section I.B (*Discharge Points and Receiving Waters*)	Concrete cutting discharges are not adequately described. The Fact Sheet needs to describe the types of concrete such as reinforced concrete and type of contaminants in the discharge.	See *Response to Comment* B.4.
B.15	E-36	Section III.B.2 (*Applicable Beneficial Uses and Water Quality Criteria*)	The Fact Sheet indicates that the initial dilution factor, Dm, of 10 for Units 2 and 3 was based on observed waste flow characteristics from each Outfall. Since Outfalls 002 and 003 are almost overlapping in the Y-axis and within approximately 250 meters apart in the X-axis, the Dm value should be based on the combined discharge from the two Outfalls.	The Zone of Initial Dilution (ZID) and Dilution Factor (DM) of 10, for Units 2 and 3, were determined by the California Institute of Technology (Caltech) in 1974 based on extensive modeling and studies. The DM calculated by Caltech was verified by the MRC in 1989 based on operational plume field tests using dyes, current meters, and computer modeling. The MRC confirmed that the DM value of 10 was appropriate. The State Board subsequently approved the DM value of 10 on March 13, 1980. The Caltech and MRC studies demonstrated that the ZID for each diffuser does not overlap with the other. In fact, the high dilution efficiency of the diffuser ports enables the initial dilution of effluent to be achieved within about 60 feet to either side of each diffuser.

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				Therefore, there is no basis for a combined ZID or for additive effects from the discharges. The Fact Sheet will be modified to provide description and findings of studies conducted to determine the ZID and DM for Units 2 and 3.
B.16	E-16	Section I.C (*Summary of Existing Requirements and Self-Monitoring Data*)	The Fact Sheet indicates that on November 24, 2003 the chronic toxicity in the discharge from Outfall 002 was 10 TUc. Although this was not a violation of the effluent limitation of 10 TUc, this relatively high chronic toxicity value was attributed to the intake ocean water which also had a chronic toxicity of 10 TUc. The Fact Sheet did not discuss the possibility that discharge water with the high chronic toxicity could have been entrained into the intake structures.	As explained in *Responses to Comments* B.3 and B.15, the diffuser ports associated with Outfalls 002 and 003 are specifically designed to prevent warmer effluent from being recirculated into the SONGS intakes in order to maximize the efficiency of the steam condensers. The diffuser ports are angled upward and offshore to increase effluent discharge velocity and ensure that heated effluent actively travels away from the near shore intakes. The probability of the discharge plume getting entrained into the intake structure is negligible. It is therefore unlikely that the chronic toxicity of 10 TUc found in the intake water on November 24, 2003 was due to entrainment of discharge water in the Unit 2 intake structure.
B.17	E-40	Section III.B.2 (*Applicable Beneficial Uses and Water Quality Criteria*)	The Fact Sheet provides the basis for a daily chronic toxicity effluent limitation of 11 TUc. The Fact Sheet, however, does not explain why quarterly instead of daily monitoring for chronic toxicity is included in the MRP.	The daily chronic toxicity limitation of 11 TUc in the tentative Order is for the highest allowable discharge of chronic toxicity over a calendar day. For this reason, the MRP requires the discharger to obtain a 24-hour composite sample and analyze the sample for chronic toxicity. The daily chronic toxicity limitation does not necessarily imply that the discharger has to conduct monitoring every day of the year. Instead, the tentative Orders require

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				the discharge to monitor for one day during a quarter and accept the chronic toxicity of being representative of the rest of the days during that quarter. This is consistent with the monitoring regime required for toxicity at other power plants in California that discharge to the ocean. A review of SONGS monitoring reports over the last five years has indicated no violations of the chronic toxicity limitation. Any increase in the frequency of chronic toxicity monitoring is not warranted.
B.18	E-28	Section II.B (Other *Applicable Plans, Policies, and Regulations – CWA Section 316(b)*)	The *Proposal for Information Collection* sampling plan, as part of the CWA Section 316(b) Phase II rule, should address the cumulative effects of the intake and discharges on the marine ecosystem. The plan should include sampling of the impingement and entrainment of benthic organisms, water fowl, and marine mammals as well as fish. The plan should include monitoring for sediment chemistry and benthic community taxonomy with samples taken within the zones of initial dilution and extending beyond to obtain far-field information for comparison. Intake and discharge velocities should also be monitored. Finally, hydrologic flow patterns caused by intake and discharge flows should also be determined.	The CWA Section 316(b) Phase II rule prescribes entrainment and impingement standards specifically for all life stages of fish and shellfish (Section 125.93, Definitions). The rule also addresses impingement and entrainment losses of any species protected under federal, state, or tribal Law (including threatened or endangered species); this may include endangered birds or mammals. The rule is designed primarily to reduce losses of adult, juvenile, and larval forms of fish and shellfish at the intake structures. The rule does not address discharge impacts. The *Proposal for Information Collection* (PIC) that the discharger will be required to submit will have to include all the necessary information required under Section 125.95(b)(1) of the rule. The required information (including description of historical impingement/entrainment studies and any sampling plans for new studies) is specified on

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				Page 21 of the Tentative Order. As part of the PIC, the discharger may also have to characterize the impingement/entrainment losses (if any) of endangered birds, mammals, or other species. The PIC and other components of the *Comprehensive Demonstration Study* (including *Impingement Mortality and/or Entrainment Characterization Study*, *Design and Construction Technology Plan*, and *Restoration Plan* etc) will be reviewed by the Regional Board and various other resource and regulatory agencies (including the U.S. EPA, the U.S. Fish and Wildlife Service, the Department of Fish and Game, and the National Marine Fisheries Service). SCE will be required to incorporate any recommendations made by the agencies into the components of the *Comprehensive Demonstration Study*. Additional sediment chemistry and benthic community taxonomy for compliance with the Phase II rule or for other purposes is not needed (see *Response to Comment* B.1). An analysis of hydrologic flow patterns due to intake and discharge flow is also not required, since extensive studies have already been conducted on this subject (see *Responses to Comments* B.2 and B.3).
B.19	E-41	Section IV.A (*Influent Monitoring-Fish*	Fish monitoring should include changes in fish densities within 3 kilometers of the intakes. Compare the changes relative to control populations and from year to year. Influent	SCE is required to conduct quarterly trawling surveys at three stations that are all within 3 km of the intake/discharge locations of Units 2 and 3 (as shown in Figure 2 of Attachment 1 to the MRP). In

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		Impingement)	monitoring of only fish is not adequate. Benthic organisms, marine mammals, water fowl, fish larvae that are impinged at the intake should also be quantified; species and number per species. Fish return outfall should be sampled and marine life quantified by species and number per species.	addition, trawling surveys are also conducted at two off-shore control stations. The abundance and richness of fish populations at the stations near the SONGS intake/discharge are compared with corresponding measurements taken at the control stations. The fish trawling surveys were instituted twenty years ago and have been maintained in the tentative Orders. The monitoring has never detected statistically significant differences in fish densities near SONGS compared to control sites. To further clarify the location of the trawling station sites, Figure 2 will be modified to include better identifiers for the stations in the vicinity of SONGS and the stations at the control sites. SCE has indicated that it already reports marine mammal impingement separately to the National Marine Fisheries Service (NMFS). Information regarding impingement of marine mammals in the SONGS intake may be obtained from NMFS. It should be noted that the likelihood of benthic organisms being entrained/impinged in the intake structures is very low due to the intake terminal structure's velocity cap and its placement substantially above the seafloor. Waterfowl are not entrained/impinged due to the velocity cap and its placement well below the low tide elevation. Most fish larvae are not impinged on the intake screens because they pass through the intake screens and

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				are entrained in the cooling water system. SCE will be required to characterize entrainment of fish larvae as part of *Comprehensive Demonstration Study* for the Phase II rule. Studies on the efficiency of the fish return system at SONGS were conducted during 1985-86 by the NMFS. A "corral" net was deployed at the end of the Fish Return System outfall and monitored by divers to document the survival of fish returned to the ocean. A total of fourteen 96-hour samples were collected (six from Unit 2 and eight from Unit 3). In its 1989 report, the NMFS concluded that the fish return system allowed 80 – 95 percent of most species of fish to be diverted back to the ocean instead of being impinged on the intake screens. The Fact Sheet will be modified to discuss the findings of the NMFS studies, regarding SONGS fish return system efficiencies, contained in its 1989 report. The MRP requires the discharger to monitor the fish impinged on the intake screens for weight, number of species, length, and sex, during heat treatments and for at least one continuous 24-hour period per quarter. The fish return system has not been modified since the 1980s. Inspections conducted at SONGS by Regional Board staff over the last five years have indicated that the fish return system appears to be well maintained and

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				functioning adequately. The efficiency of the fish return system is not expected to be any different from what was observed and documented by NMFS in 1989. Periodic monitoring of fish at the fish return outfall is not necessary and has not been included in the MRP. This is because the species and number of fish that are diverted to the fish return system outfall can be estimated from the monitoring data of fish impinged on the intake screen (provided in the MRPs) in conjunction with the efficiency of the fish return system (as recommended by the NMFS). It should be noted that discharger will be required to demonstrate that Units 2 and 3 both meet the impingement mortality performance standards (i.e. 80 to 95 percent reduction of fish and shellfish mortality from calculated baseline) of the CWA Section 316(b) Phase II rule. As part of this demonstration, the discharger would have to reevaluate the efficiency of the fish return system and confirm that the fish return system (in conjunction with other control measures at the facility) is reducing the impingement mortality of fish and shellfish by 80 to 95 percent from the baseline.

C. Industrial Environment Association (IEA), letter dated March 8, 2005

General Comment Regarding *Tentative Orders*				
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C.1	N/A	N/A	IEA requests that SCE not be burdened any more than any other major discharger on the Southern California coast. One particular area of concern is the fact that SONGS has separate NPDES permits for both Units 2 and 3. This is not the case for other generating stations with multiple outfalls in other regions in Southern California. The result is SCE (and ultimately the ratepayer) paying much higher annual NPDES permit fees than other generating stations on the Southern California coast. This is unfair, unreasonable, and should be corrected by issuing one NPDES permit for the entire station.	See *Response to Comment* A.2.

D. Deputy Mayor Michael Zucchet, City of San Diego, letter dated March 15, 2005

General Comment Regarding *Tentative Orders*				
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D.1	N/A	N/A	The Regional Board is urged to adopt NPDES permits for SONGS that protect the region's water resources and comply with state and federal environmental regulations. The permits appear to have significant gaps in findings and information related to the environment and as identified by the	See *Response to Comment* B.9. The tentative Orders are fully protective of the beneficial uses and water quality objectives of the receiving waters of the Pacific Ocean. The effluent limitations, prohibitions, and

General Comment Regarding *Tentative Orders*				
			San Diego Bay Council. The Regional Board is urged to defer immediate action in the adoption of the permits until the gaps in key information are resolved and the public has had a chance to review the information in order to provide meaningful input.	monitoring and reporting provisions included in the tentative Orders implement the federal NPDES regulations, the California Ocean Plan, the Thermal Plan, CWA Section 316(a) and (b), the Basin Plan, and federal performance standards for the steam electric power plants (40 CFR Part 423). Based on public comments received, the Fact Sheet will be expanded to include more background information and findings of historical studies conducted at SONGS. This includes additional details regarding the historical compliance of SONGS with CWA Section 316(b) requirements (entrainment/impingement impacts of intake structures). Also a description of studies conducted and subsequent mitigation and monitoring requirements recommended by the MRC will be added to the Fact Sheet. The Fact Sheet will also be augmented to include information regarding the hydraulic characteristics and performance of the diffusers associated with the Unit 2 and 3 outfalls and better schematics showing relative locations and coordinates of the discharge outfalls, intake structures, fish return outfall, and across-the-beach discharge locations. Additional discussions on the efficiency of the fish return system will also be added to the Fact Sheet. Furthermore, various references of historical studies and investigations conducted at SONGS will also be included in the Fact Sheet.

General Comment Regarding *Tentative Orders*				
				The modified Fact Sheet will include the information necessary for a reader to better understand the basis for waste discharge requirements and monitoring provisions in the tentative Orders.

E. San Diego Bay Council, 2ND letter, dated March 21, 2005

San Diego Bay Council, 2ND letter, dated March 21, 2005 Comments Regarding *Fact Sheet*				
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E.1	E-5 and E-6	Section I (*Facility Description*)	The tentative Orders fail to meet the tenets of the NPDES program as defined by the EPA, since they Orders do not clearly identify the permitted facility and describe the authorized discharge locations. The Fact Sheet provides the coordinates (Lat/Long) of all five Outfalls associated with each of Unit, however, the facility map in Attachment A depicts only three of the discharge outfalls for Units 1, 2, and 3 (i.e. Outfalls 001, 002, and 003). The facility map fails to provide the location of the fish return system discharge (Outfall 004) and across-the-beach discharge (Outfall 005). Also it is important that the coordinates of the Outfalls be presented in a Cartesian system (i.e. X-Y) so as to better understand the proximity of the Outfalls in	See *Response to Comment* B.10.

San Diego Bay Council, 2ND letter, dated March 21, 2005 Comments Regarding *Fact Sheet*				
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			relation to each other.	
E.2	E-41	Section IV.A (*Influent Monitoring-Fish Impingement*)	The Fact Sheet only provided fish impingement data for Unit 2. Data needs to be provided for the estimated combined fish impingement and entrainment from Units 2 and 3.	The Fact Sheet will be modified to include fish impingement data for Unit 3. The discharger will be required to characterize fish entrainment losses as part of *Comprehensive Demonstration Study* for the Phase II rule.
E.3	E-27	Section II (Other *Applicable Plans, Policies, and Regulations – CWA Section 316(b)*)	In its review of SCE's 2003 Annual Marine Analysis and Interpretation report, the Bay Council noticed that the number of fish impinged in Unit 3 was 2.58 times more than the number impinged in Unit 2 (even though the intake flow for both Units are basically the same). The *Comprehensive Demonstration Study* to be conducted as part of the CWA Section 316(b) Phase II rule should investigate the large difference in fish impinged in Units 2 and 3. The Study should also determine the predation losses of the fish returned to the ocean (via the SONGS fish return system) and sample the health of the returned fish.	As noted in *Response to Comment* A.2, SONGS Units 2 and 3 have individual intake structures and outfalls and are regulated under separate NPDES permits. As such, both Units will be required to demonstrate compliance with the Phase II rule separately. The impingement/entrainment losses at both Units will be addressed independently and not aggregated. As noted in *Response to Comment* B.18, the *Proposal for Information Collection* and other components of the *Comprehensive Demonstration Study* will be reviewed by the Regional Board and various other resource and regulatory agencies. The recommendations made by the agencies would have to be incorporated into the Study. The discharger will be required to submit historical studies characterizing impingement

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				mortality and entrainment losses attributable to the intake structures associated with Units 2 and 3. As part of this characterization, the discharger may have to submit multiple years of data (not just 2003). In addition, the discharger may also conduct additional entrainment monitoring to supplement historical data. Any major differences between the fish losses at Units 2 and 3 may have to be addressed in the *Comprehensive Demonstration Study*. As part of the Study, the discharger would also have to reevaluate the efficiency of the fish return system and confirm that the fish return system (in conjunction with other control and restoration measures at the facility) is reducing the impingement mortality of fish and shellfish by 80 to 95 percent from the baseline (i.e. the designated performance standard of Phase II rule). The health of health and viability of fish being returned to the ocean would also be evaluated as part of the Study. The discharger may also be required to address any potential increased depredation of fish by marine predators that may occur as result of the fish return system.
E.4	E-4	Section (*FacilityDesc*.)	The Fact Sheet does not provide flow estimates for the discharge from the fish return system	As shown in Attachment B (SONGS Units 2 and 3 Wastewater Flow Schematic) to the

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			(Outfall 004) and the across-the-beach discharge (Outfall 005). Furthermore, the MRP does not contain requirements to monitor fish from Outfall 004.	tentative Orders, up to 9 MGD of cooling water (from each Unit 2 and 3) is discharged to the ocean via the fish return system (Outfall 004). Attachment B also indicates that the across-the-beach discharge (Outfall 005) from each Unit is 24.5 MGD. See *Response to Comment* B.19 for fish return outfall monitoring issues.
E.4	E-4	Section I.B (*Discharge Points and Receiving Waters*)	The Fact Sheet does not discuss the potential fouling of water intake pipelines by marine organisms and the maintenance procedures SCE employs to remove and dispose off the organisms. If the marine organisms scraped from the intake pipelines are disposed to the ocean, the tentative Orders should contain waste discharge requirement for this wastestream.	SCE does conduct periodic maintenance and cleaning of its intake screens, bar racks, circulation pumps, and off-shore intake pipelines. However, all debris removed during cleaning is taken to an offsite landfill for disposal.

F. U.S. Fish and Wildlife, letter dated March 22, 2005

U.S. Fish and Wildlife, letter dated March 22, 2005 **Comments Regarding** *Fact Sheet*				
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F.1	E-27	Section II (Other *Applicable Plans, Policies, and Regulations – CWA Section 316(b)*)	The tentative Orders do not clearly demonstrate if SONGS is in compliance with entrainment and impingement performance standards for intake structures under Section 316(b) ("Phase II Rule") of the Clean Water Act and whether the cooling water intake structures reflect best technology for minimizing adverse impacts.	See *Response to Comment* B.1.
F.2	E-27	Section II (Other *Applicable Plans, Policies, and Regulations – CWA Section 316(b)*)	USFWS is concerned about the impacts resulting from entrainment and impingement of marine organisms, especially anchovies, since they are an important food source for endangered species such as the California least tern and California brown pelican. USFWS is also concerned about the potential increased depredation of fish by marine predators that may occur as result of the fish bypass system.	See *Responses to Comments* B.19 and E.3.
F.3	N/A	N/A	The tentative Orders do not clearly explain the mitigation activities being conducted at SONGS pursuant to the California Coastal Commission and whether these activities are adequate in minimizing and mitigating the impacts to marine organisms (specially prey species for federally listed piscivorous birds) from the SONGS discharge.	See *Response to Comment* B.1.

G. Environmental Health Coalition (EHC) and Nuclear Information and Resource Service (NIRS), letter dated March 23, 2005

Environmental Health Coalition (EHC) and Nuclear Information and Resource Service (NIRS), letter dated March 23, 2005 Comments Regarding *Tentative Orders*				
Comment #	**Page Number of Tentative Orders**	**Section of Tentative Orders**	**Comment**	**Response to Comments**
G.1	N/A	N/A	The tentative Orders should include monitoring of radioactivity in the waste discharge since the Nuclear Regulatory Commission's (NRC) self-reporting monitoring at SONGS falls far short of fully informing the public about the content of radioactive material in the plant's discharge. Under the monitoring protocol employed by NRC the radioactive effluent at SONGS is monitored by a "set point alarm system" established to permissible limits defined under federal regulations. Actual sampling/monitoring of the effluent is only triggered when the threshold established by the "set point alarm system" is exceeded. Therefore, the public is not informed about the routine releases of radioactivity from the facility that are below threshold levels. Furthermore, there is currently no monitoring at SONGS for releases of tritium, and noble gases (such as radioactive krypton and xenon which decay to radioactive strontium and cesium). The inclusion of radioactivity monitoring in the tentative Orders will further the public's right-to-know what is contained in the plant's discharge.	As indicated in page E-30 of the Fact Sheet, the U.S. Supreme Court made a ruling that the U.S. EPA did not have authority to control radioactive materials that are regulated under the Atomic Energy Act through the NPDES permit program (delegated to the States). The tentative Orders do not include effluent limitations or monitoring requirements for radioactive materials and releases since they are already regulated by Nuclear Regulatory Commission pursuant to the AEA. The NRC already conducts extensive monitoring of all radioactive wastestreams from SONGS. Additional radioactivity monitoring under the NPDES program is not necessary.
G.2	N/A	N/A	Given the sheer size of the plant's discharge, the complexity of the facility, the inherent risks of nuclear power generation and the long track of problems at the plant (the comment letter	See *Response to Comment* D.1.

Environmental Health Coalition (EHC) and Nuclear Information and Resource Service (NIRS), letter dated March 23, 2005 Comments Regarding *Tentative Orders*				
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			provides a chronology of news articles regarding facility shutdowns and operational problems from 2001 to the present), the Regional Board needs to fully evaluate the effectiveness of the renewal permits to ensure compliance with environmental laws and to address the lack of detailed information about the facility, including the intake and discharge infrastructures, the fish return system, the steam condenser alloys, and benthic studies, so that the Regional Board can render an informed decision. The level of information and attention to detail contained in the tentative Orders and Fact Sheet for SONGS should match the information contained in the recently issued permit for the South Bay Power Plant.	

H. Department of Fish and Game, letter dated March 23, 2005

Department of Fish and Game, letter dated March 23, 2005 **Comments Regarding *Tentative Orders***				
Comment #	**Page Number of Tentative Orders**	**Section of Tentative Orders**	**Comment**	**Response to Comments**
H.1	21	Section V.C.1.a (*Special Provisions – CWA 316(b) Comprehensive Demonstration Study*)	Pursuant to the CWA Section 316(b) "Phase II Rule" for intake structures, the tentative Orders required SCE to perform a *Comprehensive Demonstration Study*. Since entrainment and impingement impacts have already been characterized in previous studies, the main focus of the *Comprehensive Demonstration Study* should be towards completing the components of the Study that deal with implementing technological alternatives and more importantly restoration/mitigation measures. Once the impacts are properly characterized and it the impacts cannot be resolved by technological fixes the next logical step is to develop restoration/mitigation measures. DFG recommends that the tentative Orders be modified to emphasize the restoration aspect of the Study. DFG recommends, that if restoration were required, then SCE would have to initiate the measures no later than three years from adoption of the Orders.	The discharger will be required to provide a *Technology Installation and Operation Plan* and/or *Restoration Plan* etc. with proposed implementation schedules, as part of its *Comprehensive Demonstration Study* for compliance with the CWA Section 316(b) Phase II rule. The tentative Orders require that the final report on the *Comprehensive Demonstration Study* be submitted prior to January 9, 2008. This consistent with the deadline specified in the Phase II rule. If the discharger decides to implement a *Restoration Plan*, it would have to propose specific measures to restore the quantities of fish and shellfish in the vicinity of SONGS to levels that offset entrainment and impingement losses. During implementation of the *Restoration Plan*, the discharger would have to work closely with the Department of Fish and Game, U.S. Fish and Wildlife Service, and National Marine Fisheries Service, and other agencies that manage the resources of ocean waters.

Department of Fish and Game, letter dated March 23, 2005 **Comments Regarding *Fact Sheet***				
Comment #	**Page Number of Fact Sheet**	**Section of Fact Sheet**	**Comment**	**Response to Comments**
H.2	E-25	Section II.B (Other *Applicable Plans, Policies, and Regulations – Thermal Plan*)	SCE has requested an increase in the number of annual heat treatments at SONGS Units 2 and 3. SCE has also requested that the existing maximum daily delta T thermal limitation be replaced with an average daily limitation in the Orders. The Fact Sheet indicates that the discharger would have to apply for new thermal plan exceptions in order for the Regional Board to consider SCE's requested thermal modifications at Units 2 and 3. DFG concurs with the Regional Board's position on this issue.	Comment noted.

I. Mr. Sheldon Plotkin, Plotkin and Associates, letter dated February 1, 2005

General Comment Regarding *Tentative Orders*				
Comment #	**Page Number of Tentative Orders**	**Section of Tentative Orders**	**Comment**	**Response to Comments**
I.1	N/A	N/A	The tentative Orders allow the discharger to self monitor the discharges from Units 2 and 3. This is a flaw, since the polluter can never be expected to be truly independent when sampling its discharge. The Regional Board should require all testing at SONGS to be performed by an independent non-affiliated entity.	The requirement to allow SCE to self-monitor its discharge is consistent with federal NPDES regulations (40 CFR 122). Furthermore, pursuant to 40 CFR 122.22, all self-monitoring reports submitted by the discharger, including SCE, must include a signed certification that indicates that the monitoring data submitted is accurate and that any intentional falsification of information is subject to penalties including imprisonment.

J. Mr. Jack Eidt, Wild Heritage Planners, email dated March 15, 2005

General Comment Regarding *Tentative Orders*				
Comment #	**Page Number of Tentative Orders**	**Section of Tentative Orders**	**Comment**	**Response to Comments**
J.1	N/A	N/A	The tentative Orders are not sufficiently comprehensive to inform the public of risks, do not protect our region's precious water resources, and do not comply with state and federal environmental laws. Given the sheer size and great public interest in this discharge permit, the Regional Board should defer any immediate action in the adoption of these Orders until the significant gaps in key information regarding environmental impacts are included to justify its adoption, and the public has had a chance to review that information and to provide meaningful input.	See *Responses to Comments* B.9 and D.1.